

What is claimed is:

1. A fabrication method of a liquid crystal display device, comprising:
forming a gate line on a substrate by applying a gate photoresist pattern by printing;
sequentially forming a gate insulating layer, a semiconductor layer, and a high-concentrated N+ layer over the gate line;
forming an active region over the high-concentrated N+ layer by applying an active photoresist pattern by printing;
forming a conductive layer over the active region;
depositing a photoresist layer over the conductive layer;
applying a mask over the photoresist layer, performing a lithography process, and thereby forming a source/drain electrode;
forming a passivation layer over the source/drain electrode;
forming a contact hole over the passivation layer by applying a contact hole photoresist pattern by printing; and
forming a pixel electrode on the passivation layer by printing a pixel electrode photoresist pattern.
2. The method of claim 1, wherein the mask includes a channel region pattern.
3. The method of claim 1, wherein the printing is ink jet printing or roller printing.
4. The method of claim 1, wherein the step for forming the source/drain

electrode comprises:

- defining an active layer by sequentially removing the high-concentrated N⁺ layer and the semiconductor layer by using the active resist pattern formed by printing as a mask;

- removing the active resist pattern;

- sequentially forming a conductive layer and a photoresist layer over the active layer;

- exposing the photoresist layer, performing a development process, and thereby removing the photoresist layer above a channel region by using the mask including the channel region pattern; and

- sequentially removing the conductive layer and the high-concentrated N⁺ layer above the channel region.

5. A fabrication method of a liquid crystal display device, comprising:

- forming a gate line over a substrate by applying a gate resist pattern formed by printing;

- sequentially forming a gate insulating layer, a semiconductor layer, a high-concentrated N⁺ layer, and a conductive layer over the gate line;

- forming an active photoresist pattern over the conductive layer by printing;

- exposing a part of the active photoresist pattern by applying a mask over the active photoresist pattern;

- forming a source/drain electrode by applying the partially exposed active photoresist pattern as a mask;

- forming a passivation layer over the source/drain electrode;

- forming a contact hole over the passivation layer by applying a contact hole photoresist pattern formed by printing as a mask; and

forming a pixel electrode over the passivation layer by applying a pixel electrode photoresist pattern formed by printing.

6. The method of claim 5, wherein the printing is ink jet printing or roller printing.

7. The method of claim 5, wherein in the step for exposing a part of the active resist pattern by applying a mask over the active photoresist pattern, an exposed region is a channel region and only a part of the active resist thickness is exposed to a certain depth.

8. The method of claim 5, wherein the step for forming the source/drain electrode comprises:

removing the conductive layer, the high-concentrated N layer, and the semiconductor layer by applying the active photoresist pattern partially exposed by the mask as a mask;

removing an exposed part of the active photoresist pattern and thereby exposing the conductive layer formed above the channel region;

removing the exposed conductive layer and the high-concentrated N⁺ layer;
and

removing the active resist pattern.

9. A fabrication method of a liquid crystal display device comprising:

forming a black matrix over a substrate;

forming a color filter layer over the substrate by printing;

forming an overcoat layer over the color filter layer;

forming a common electrode over the overcoat layer; and
forming an alignment layer over the common electrode.

10. The method of claim 9, wherein the step for forming the color filter layer comprises:

forming a negative first photosensitive color resin over a substrate by printing;

forming the first photosensitive color resin only at a first sub color filter region by exposing and developing the first photosensitive color resin by using a mask;

printing a second photosensitive color resin over the substrate, and forming the second photosensitive color resin only at a second sub color filter region by exposing and developing the second photosensitive color resin by using a mask; and

printing a third photosensitive color resin on the substrate, and forming the third photosensitive color resin only at a third sub color filter region by exposing and developing the third photosensitive color resin by using a mask.

11. The method of claim 9, wherein the printing is ink jet printing or roller printing.

12. A liquid crystal display device, comprising:

a substrate;

a black matrix over the substrate;

a printed color filter layer over the substrate;

an overcoat layer over the color filter layer;

a common electrode over the overcoat layer; and

an alignment layer over the common electrode.

13. The liquid crystal display device of claim 12, wherein the printed color filter layer comprises:

a printed first photosensitive color resin at a first sub color filter region;

a printed second photosensitive color resin at a second sub color filter region; and

a printed third photosensitive color resin at a third sub color filter.

14. The liquid crystal display device of claim 12, wherein the printed color filter layer has been ink jet printed or roll printed.